\PTER \h \r 1]**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

<Month Date, Year>

Mr. Kurt Batsel
The Dextra Group, Inc.

Re: EPA Site Visit and Vapor Intrusion Field Assessment, 825 Stewart Avenue Sunnyvale, CA, TRW Microwave Superfund Site (CERCLIS ID# CAD009159088)

Dear Mr. Batsel:

Thank you for organizing for me and Matt Plate to conduct the August 19, 2021 site visit of the 825 Stewart Drive building, which is currently leased by Apple, Inc. (Apple). The site visit was attended by Michael Shannon with Northrup Grumman Corp (NGC), you, and NGC's consultant Holly Holbrook with AECOM. During the site visit an Apple leasing manager provided access throughout the building. The purpose of the site visit was for EPA to inspect the following items to assess the potential for vapor intrusion into the building:

- The sub-slab depressurization system (SSDS) that was installed underneath the three connected site buildings that passively vents soil gas vapors to the atmosphere.
- The building's concrete slab and the April 2015 cracks that where sealed to prevent potential vapor intrusion.
- The building's concrete slab and penetrations from pipes or seams
- The previously installed soil gas sampling vapor ports.
- The locations where past indoor air sampling has been conducted.
- The operation of the HVAC system and the HVAC air venting and intakes on the roof.
- The location where contaminated soil was excavated in 2014 from underneath the building.
- Where the spaces between the walls of the three sections of the buildings were sealed in 2015.
- A review of any post-2015 building modifications or changes to the building.
- The groundwater emulsified vegetable oil in-situ bioremediation system.
- The location of groundwater monitoring wells.

Based on EPA's inspection of the building and real-time indoor pressure readings, the building HVAC system is well balanced to maintain a positive pressure within the occupied building areas, and the likelihood for vapor intrusion is low and not expected. EPA understands that Apple intentionally operates the HVAC system to balance room pressures, heating, and air turn-over to support long-term product development operations. EPA also noted that the exposed concrete floor was present throughout the building with adequately sealed cracks. However, during the site visit EPA did identify the following items that NGC will need to follow-up on.

EPA Recommendations:

- **SSDS Vent Pipes:** From Matt Plate's visual inspection on the roof, four of the SSDS exhaust vents are ~~withing~~ approximately 10-feet of the HVAC's intakes vents and lower or at a comparable height to the intakes. This distance is an acceptable building code distance; however, a distance greater than 10-feet and/or a height that is elevated above the building ventilation system components needs to be considered given the SSDS may vent ~~low~~ concentrations of contaminants of concern outside, creating the ~~which could~~ potential for low concentrations of site contaminates to ~~bely~~ pulled into the~~migrate to the~~ HVAC intakes and into the building. This scenario and potential impacts to indoor air quality need to be evaluated and mitigated by NGC. As the interior SSDS vertical vent pipes cannot be easily moved and rerouting of piping on the roof may compromise the effectiveness of the passive SSD, consideration needs to be given to extending the height of vent pipes. For vent pipes that cannot be extended (e.g., the east building vent pipes under the chiller), consideration should be given to rerouting the vent pipes away from HVAC intakes, and converting the SSDS to an active system with a blower fan.

- **HVAC Operation:** EPA's observations of the HVAC system and pressures within the building were limited to the day of the site visit and the operation of the building at the time. While a balanced HVAC system was observed maintaining a positive pressure, EPA requests that HVAC and building test and balance information for the HVAC systems be provided to EPA to confirm this.

- **Sub-slab Sampling Ports:** The historical concrete sub-slab vapor sampling ports, left in place, have not been regularly sampled or maintained and several could not be located (SS-10 and SS-11). These ports need to be located and maintained where future sub-slab sampling will be conducted, or ~~they should be~~ decommissioned. The figure used to locate the sub-slab ports only showed approximate locations. EPA also requests an updated figure for the building showing all sub-slab vapor sampling port locations including measurements from exterior and interior walls, their ID names, and callouts presenting historical VOC detections.

Please reach out to me at [HYPERLINK "mailto:schulman.michael@epa.gov"] or (415) 972-3064 if you have any questions regarding the findings of the enclosed report or this letter. Thank you again for your cooperation and participation in this.

Sincerely,

Michael Schulman
Remedial Project Manager

cc:

Enclosures: